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THE GARDEN CALENDAR

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A radio discussion by W. R. Beattie and David Griffiths, Bureau of Plant Industry, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast by a network of 48 associate NBC radio stations, Tuesday, December 20, 1932.

JAN - 1933

ANNOUNCER:

In our Garden Calendar today, W.R. Beattie and David Griffiths of the Bureau of Plant Industry, are going to tell us about the growth and development of the bulb industry in the United States, and how American bulb growers are now producing a large part of the bulbs used for bedding and for forcing in this country. All right Beattie -----

BEATTIE:

Hello folks. You probably know that until recently most of our supply of flowering bulbs, especially tulips, daffodils, and hyacinths were imported. Most of them came from Holland, and we had somehow gotten the idea that only the Holland growers knew how to grow good bulbs. Anyway our American growers were having their troubles more or less, and they were insisting that the Department give them some help. My friend Dr. Griffiths here, old range rider that he was and I guess still is - had been experimenting with the growing of bulbs for many years, and to him was assigned the task of working out some of the problems that were troubling the bulb growers. A good many people will tell you that his work laid the foundation for our present bulb industry. I know all of us will be interested in Dr. Griffiths comments on the bulb industry of the United States. How about it, Dr. Griffiths?

GRIFFITHS:

Well Beattie, I would say that the commercial production of bulbs on an important scale for forcing and garden planting is a comparatively new industry in the United States. Bulbs of many kinds have been successfully grown in this country on a small scale for many years, but it is only recently that the scale of production of many items has become important.

BEATTIE:

Let me ask you one question right now. Can our growers produce as good bulbs as foreign growers?

GRIFFITHS:

Yes, in some cases we can grow better bulbs than the foreign growers.

BEATTIE:

Where is the commercial bulb industry developing on the country?

(over)

GRIFFITHS:

That depends upon the kind of bulb you refer to. The Polyanthus, or tender types of narcissus, are grown mostly in California and in a number of our Southern States, while the daffodil, or hardy types are grown on the Pacific Coast, and in several of our Eastern and Southern States. Tulips can be grown over quite a wide range, but so far their culture has not extended over so wide an area as the daffodils. Taking commercial bulb production in all of its phases, it is pretty well distributed along the Pacific Coast, the Gulf Coast, and practically all over the section east of the Mississippi River.

BEATTIE:

That's a big territory, and it looks as though there are plenty of locations in the United States where the soil and climate are suited for growing one or more kinds of bulbs.

GRIFFITHS:

Yes, the United States can produce unlimited quantities of bulbs. We have the climates and the soils. Our main problem is to develop the industry along safe and sane lines, and avoid making mistakes.

BEATTIE:

Where are you doing your experimental work, Dr. Griffiths?

GRIFFITHS:

Mostly at Bellingham, Washington; Willard, North Carolina; Charleston, South Carolina, and at the Arlington Experimental Farm near Arlington, Virginia, just across the Potomac River from Washington, D.C.

BEATTIE:

Coming right down to "brass tacks," as the saying goes, what are the main problems that you are tackling at the four bulb growing stations?

GRIFFITHS:

Every problem that the commercial grower would encounter, except selling his product. We select and store the planting stock, treat it for the control of diseases, plant it on a large enough scale to determine its commercial possibilities. When the bulbs are grown, we dig and cure them, and then sort them and make records of the gains and the number of marketable bulbs produced. Of course, you understand no two kinds of bulbs require the same treatment, and the grower must understand these differences minutely or he will be headed for trouble.

BEATTIE:

Would you give us some examples of these.

GRIFFITHS:

Well, differences in methods of propagation and the formation of new bulbs for one thing. The *Narcissus* produces new bulbs by the enlargement and division of the older bulbs each year, while with the tulip the old bulb dies and a complete new set of bulbs is formed. Within each group there are a lot of differences in habits of growth and renewal. Problems of propagation are among the most important that we are trying to solve.

BEATTIE:

Have you done any special work on the storage of bulbs?

GRIFFITHS:

Yes, we have conducted experiments to determine the effect of cold storage on the flowering habits of the bulbs. We have worked out effective methods of treating the bulbs for the control of certain insects and diseases. We experiment with different planting distances and depths of planting. We are crossing and breeding new varieties. We study the best methods of packing and shipping because many bulbs become heated and ruined in the packages during shipment. As I have said, we study every phase of bulb production and handling except the actual selling.

BEATTIE:

Is there anything especially new in bulb growing or forcing?

GRIFFITHS:

Yes, the forcing of daffodil bulbs in water like the paper white.

BEATTIE:

That's interesting, tell us about it.

GRIFFITHS:

It's really quite simple. The early flowers are the ones most in demand. If you keep your daffodil bulbs in a refrigerator at a temperature of about 50 degrees, during the month of August, they will bloom thirty days earlier than normal.

BEATTIE:

At our house we often force the paperwhite narcissus in dishes of water with pebbles to hold the bulbs in position, but we have never tried the daffodils.

GRIFFITHS:

One is just as easy as the other. You can store the bulbs in your cellar at a temperature of 45 to 50 degrees until midwinter then set each bulb in the top of a base, or set a number of them in pebbles in a dish so that the water will just touch the base of each bulb. Set the vase or dish containing the bulbs in your furnace room where the temperature is about 60 degrees for a week or two, or until the roots form, and the flower spike is out of the boot.

BEATTIE:

Don't you use any soil?

GRIFFITHS:

No, just keep the water at the right height, then when the flower spike of each bulb is started you take the bulbs out and wash their roots clean under the water tap, clean out the vases or dishes, refill with clean water and replace the bulbs. You are then ready to bring them to the light at a living room temperature and they will flower. If you keep the bulbs stored until late January, 30 days is sufficient to bring them into flower. The plan that I have outlined is definite, but the method of forcing may be endlessly varied. For example, you

can force the daffodil bulb in pebbles, sphagnum, or in peat moss just as well in water, but you must hold them at root-cellars temperatures and not plant them before the latter part of January.

BEATTIE:

What other classes of bulbs are you experimenting with?

GRIFFITHS: Well, for one thing, we've worked out the methods of propagating about forty species of lilies. We've grown certain of the more important commercial lilies from the seed to splendid flowering plants in fifteen months from sowing. We have studied the relations of one variety to another and determined the best methods of producing seed and growing the seedlings. I might say that nine-tenths of the lilies of the world can be grown in this country, and perhaps all of them when we know their characteristics better.

BEATTIE:

You haven't mentioned hyacinth bulbs. Can we grow hyacinths in this country.

GRIFFITHS:

Yes. We can, and do, grow them. The production of the hyacinth is more technical than daffodils and tulips, but the difficulties of hyacinth production have been greatly over-rated. Certain soil and climatic conditions must be complied with. We have grown some mighty fine hyacinth bulbs at our Arlington Station near Washington, D.C., also at our Bellingham station in the State of Washington. We are now in our fifth propagation from imported bulbs.

BEATTIE:

Everything considered then, Dr. Griffiths, you would say that we are safely on the road to success in the production of bulbs in this country?

GRIFFITHS:

Yes, well on the road to success, in fact, in most lines we have attained success. We are at present producing more good bulbs in certain ground than our markets require. There is no doubt that our American bulb growers can produce all the bulbs of most kinds that we require.

BEATTIE:

Thank you a lot Dr. Griffiths, and so folks we have given you another report on the aid that people engaged in the production of horticultural products may obtain from the scientific workers of the Department of Agriculture. If any of you desire to ask any questions on the production or the flowering of bulbs, we will do our best to answer them.